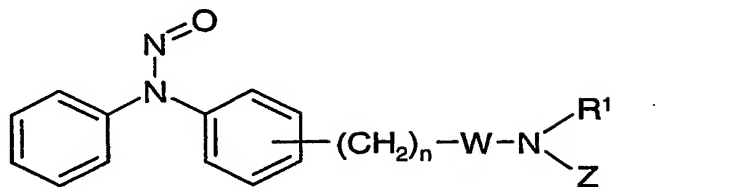


CLAIMS

1. Compound of the formula I:



in which

each of the phenyl rings represented is optionally substituted one or more times;

n represents an integer selected from 0, 1, 2, 3, 4 and 5;

10 W represents -CO- or -SO<sub>2</sub>-;

Z represents H; alkyl; aryl; or arylalkyl;

R<sub>1</sub> represents any monovalent organic group;

and the pharmaceutically acceptable salts thereof.

- 15 2. Compound according to Claim 1 of the formula I, in which:

R<sup>1</sup> represents -A-Cy in which A represents a bond, alkylene or alkenylene; and Cy represents aryl, which is optionally substituted by one or more radicals St; heteroaryl, which is optionally substituted by one or more radicals St; or a saturated and/or unsaturated heterocycle, which is optionally substituted by one or

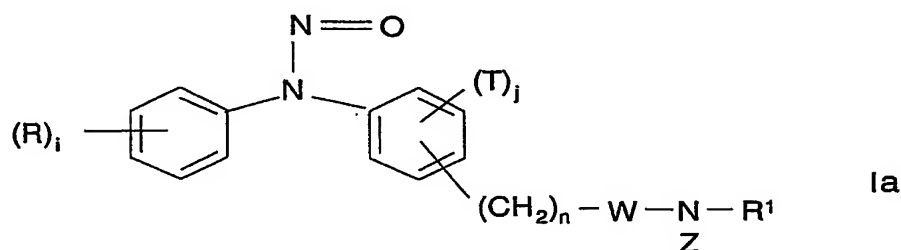
20 more radicals St; or alternatively

R<sup>1</sup> represents -A-NR<sub>a</sub>R<sub>b</sub>, in which A is as defined above; R<sub>a</sub> represents H or alkyl; and R<sub>b</sub> represents alkyl;

St is selected from nitro; a halogen atom; cyano; optionally halogenated alkylthio; alkylamino; dialkylamino; optionally halogenated alkyl; optionally halogenated

25 alkoxy; a saturated and/or unsaturated heterocycle, which is optionally substituted by alkyl or alkoxy..

3. Compound of the formula Ia:



in which

W represents -CO- or SO<sub>2</sub>-;

n represents an integer selected from 0, 1, 2, 3, 4 and 5;

5 i represents an integer selected from 0, 1, 2, 3, 4 and 5;

R, which may be identical or different, represent optionally halogenated alkoxy; optionally halogenated alkylthio; optionally halogenated alkyl; optionally halogenated alkylsulfonyl; halogen; dialkylamino; cyano; alkylamino; or nitro;

Z represents H; alkyl; aryl; or arylalkyl;

10 T represents H or a halogen atom; or an alkyl group; an alkoxy group; an alkylthio group; an alkylamino group; or a dialkylamino group;

j represents an integer selected from 0, 1, 2, 3 and 4;

R<sup>1</sup> is as defined in either of Claims 1 and 2; and

the pharmaceutically acceptable salts thereof.

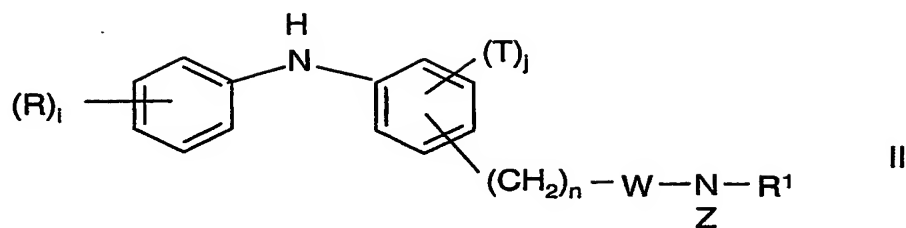
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4. Compound according to any one of the preceding claims, characterised in that R<sup>1</sup> represents optionally substituted phenyl; -(CH<sub>2</sub>)<sub>r</sub>-Ph<sup>o</sup>, in which Ph<sup>o</sup> is optionally substituted and r represents an integer selected from 1, 2 and 3, preferably 1; -B-phenyl, in which B represents C<sub>2</sub>-C<sub>5</sub> alkenylene; -(CH<sub>2</sub>)<sub>t</sub>-Het, in which  
 20 t is an integer selected from 0, 1, 2 and 3; and Het represents an optionally substituted saturated and/or unsaturated aromatic heterocycle, preferably monocyclic, containing 1 to 3 hetero atoms selected from N, O and S, or Het represents quinuclidine; -(CH<sub>2</sub>)<sub>s</sub>-NR<sub>a</sub>R<sub>b</sub>, in which s is an integer selected from 0, 1 and 2 and R<sub>a</sub> and R<sub>b</sub>, which may be identical or different, are alkyl.

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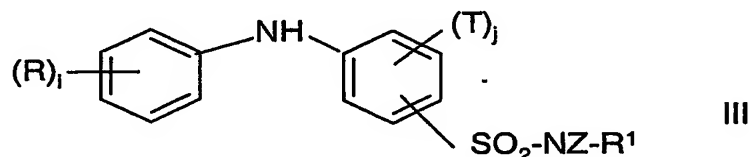
5. Compound according to Claim 4, characterised in that R<sup>1</sup> represents -(CH<sub>2</sub>)<sub>t</sub>-Het in which Het is a radical selected from pyridyl; imidazolyl; piperidyl; piperazinyl; and pyrimidyl, the said heterocycle being optionally substituted.

6. Compound according to any one of Claims 1 to 5, characterised in that Z represents H.
7. Compound according to any one of Claims 1 to 6, characterised in that W represents SO<sub>2</sub>; R<sup>1</sup> represents -(CH<sub>2</sub>)<sub>t</sub>-Het, in which t represents an integer selected from 0, 1, 2, 3 and 4 and Het represents an aromatic heterocycle, which is preferably monocyclic, containing 1 to 3 hetero atoms selected from O, N and S, the said heterocycle optionally being substituted.
8. Compound according to Claim 7, characterised in that Het represents pyridyl and t is 0 or 1.
9. Compound according to any one of Claims 1 to 6, characterised in that W is -CO-; and R<sup>1</sup> represents -(CH<sub>2</sub>)<sub>t</sub>-Het in which t is an integer selected from 0, 1, 2 and 3; and Het represents an aromatic heterocycle, which is preferably monocyclic, containing 1 to 3 hetero atoms selected from O, N and S, the said heterocycle optionally being substituted.
10. Compound according to Claim 9, characterised in that Het is pyridyl and t is 0 or 1.
11. Compound according to any one of the preceding claims, characterised in that the group -(CH<sub>2</sub>)<sub>n</sub>-W-N(Z)-R<sup>1</sup> is in a meta position or in the para position relative to the -N-N=O group.
12. Process for preparing compounds of the formula I, which comprises the reaction of a compound of the formula II:



in which R, T, i, j, n, W, Z and R<sup>1</sup> are as defined in Claim 3,  
with a nitrosating agent, such as an alkali metal nitrite, in acidic medium.

5 13. Compound of the formula III:



in which:

i, j, R, Z and T are as defined in Claim 1;

R<sup>1</sup> represents phenyl, which is optionally substituted by one or more radicals St;

10 -(CH<sub>2</sub>)<sub>r</sub>-Ph°, in which Ph° is optionally substituted by one or more radicals St and r represents an integer selected from 1, 2 and 3, or alternatively R<sup>1</sup> represents -(CH<sub>2</sub>)<sub>t</sub>-Het, in which Het is a radical selected from pyridyl; imidazolyl; piperidyl; piperazinyl; and pyrimidyl, the said radical optionally being substituted by one or more radicals St and t is selected from an integer 0, 1, 2 and 3; with the exclusion  
15 of the following compounds defined by formula III in which:

a) R in position 2 = R in position 4 = NO<sub>2</sub>; i=2; j=0; Z=H; and R<sup>1</sup> = 2-pyridyl;

or

b) R in position 2 = R in position 4 = NO<sub>2</sub>; i=2; j=0; Z=H; and R<sup>1</sup> represents 2,6-dimethyl-4-pyrimidyl, or 4,6-dimethyl-2-pyrimidyl;

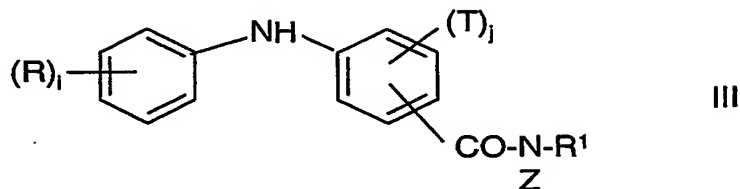
20 c) R<sup>1</sup> represents phenyl; Z=H; i=0,1; j=0; and R represents diethylamino;

d) R<sup>1</sup> represents 2,4-dinitrophenyl; i=2; R in position 2 = R in position 4 = NO<sub>2</sub>; j=0; Z=H;

e) R<sup>1</sup> represents 2,4,6-triisopropylphenyl; Z=H; i=1; j=0; R=di(n-hexyl)amino;

25 f) R in position 2 = R in position 6 = R in position 4 = NO<sub>2</sub>; i = 3; j = 0; Z = H; R<sup>1</sup> = 2,6-dimethoxy-4-pyrimidyl.

## 14. Compound of the formula III



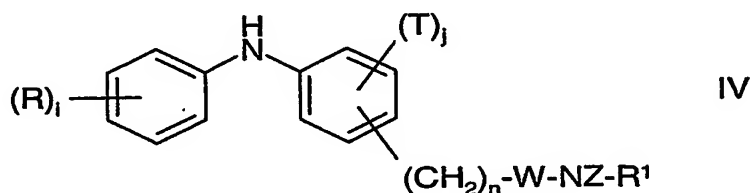
in which:

5 i, j, R, Z and T are as defined in Claim 1;

R¹ represents phenyl, which is optionally substituted by one or more radicals St;  $-(CH_2)_r-Ph^\circ$ , in which  $Ph^\circ$  is optionally substituted by one or more radicals St and r represents an integer selected from 1, 2 and 3; or R¹ represents  $-(CH_2)_t-Het$ , in which Het is a radical selected from pyridyl; imidazolyl; piperidyl; piperazinyl; and  
 10 pyrimidyl, the said radical optionally being substituted by one or more radicals St, St being as defined in Claim 2, and t is selected from an integer 0, 1, 2 and 3; with the exclusion of the following compounds defined by formula III in which:

- a) R<sub>1</sub> = 4-methyl-3-nitrophenyl; 4-ethoxyphenyl; 2-bromo-4-nitrophenyl; phenyl; 4-bromophenyl; 2-chlorophenyl; 3-fluorophenyl; 4-methoxyphenyl; 2-methoxy-  
 15 phenyl; 4-dimethylaminophenyl; 3-methoxyphenyl; 2,4-dinitrophenyl; 4-methylphenyl; 3-methylphenyl; or 2-methylphenyl; i=2, 3; R=NO<sub>2</sub>; j=0;  
 b) R<sub>1</sub> = 2-pyridyl; i=3; R=NO<sub>2</sub>; j=0.

## 15. Compound of the formula IV:



in which:

W represents -CO- or -SO<sub>2</sub>-;

R, Z, T, I and j are as defined in Claim 3;

25 R¹ represents phenyl, which is optionally substituted by one or more radicals St;

-(CH<sub>2</sub>)<sub>r</sub>-Ph°, in which Ph° is optionally substituted by one or more radicals St, St being as defined in Claim 2, and r represents an integer selected from 1, 2 and 3; or R<sup>1</sup> represents -(CH<sub>2</sub>)<sub>t</sub>-Het, in which Het is a radical selected from pyridyl; imidazolyl; piperidyl; piperazinyl; and pyrimidyl, the said radical optionally being substituted by one or more radicals St and t is selected from the integers 0, 1, 2 and 3.

16. Pharmaceutical composition comprising at least one compound of the formula I according to any one of Claims 1 to 11 in combination with one or more pharmaceutically acceptable excipients:

17. Pharmaceutical composition comprising at least one compound of the formula III or IV according to any one of Claims 13 to 15, respectively, in combination with one or more pharmaceutically acceptable excipients.

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18. Use of a compound of the formula I according to any one of Claims 1 to 11, for the preparation of a medicament that can be used in the treatment of pathologies that are characterised by an oxidative stress condition and a lack of availability of endothelial nitrogen monoxide.

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19. Use of a compound of the formula III or IV according to any one of Claims 13 to 15, respectively, in combination with one or more pharmaceutically acceptable excipients for the preparation of an antioxidant medicament that can be used as a free-radical scavenger.

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20. Use of a compound of the formula I according to any one of Claims 1 to 11, or of a compound of the formula II as defined in Claim 12, for the preparation of a medicament that can be used in the treatment of metabolic insulin resistance syndrome.

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